

COMPILATION OF UNIFIED PARALLEL C-LANGUAGE PROGRAMS

ABSTRACT

5 Methods, compiler apparatus and a computer program product for compiling UPC source
code are disclosed. UPC-unique constructs are converted into C-level form. The C-level
constructs are inserted into the source code to form a combined code. The combined code
is translated into an intermediate form, wherein any surviving UPC-unique components
are discarded. All UPC-unique data or statements are converted to a form that can be
10 handled by general compiler architectures, yet retain UPC properties. The resultant
intermediate form is converted to compiled machine code. The generation of C-level
constructs occurs at a compiler front end module, avoiding difficulties in intermediate
code handling.